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Shifting Cultivation in Orissa

N. PATNAIK

PART I

SHIFTING CULTIVATION IN ORISSA

Shifting cultivation is practised in some form or other in almost all districts of Orissa. It is the common method of cultivation in the forests and hills of the tribal areas of the State. The primitive tribal communities of Orissa depend for their livelihood chiefly on shifting cultivation. It is known as Dahi (firing), Kaman (Saving) and Tala (up land) among the Juang of the Keonjhar hills, as Biringa or Kaman among the Paudi Bhuiyia of Bonsai Subdivision and Bhuiyia Pith of Keonjhar district, as Bagada or Serben among the Saors of Ganjam, Mallahs, as Hanu by the Dangaria Khond of Koraput district, as Rama by the Desia Khond of Rairakhol and Bamra Subdivisions and as Liverng or Kunda ches by the Bonda of Koraput district. Shifting cultivation is practised by the Koya of Koraput district in the foot-hills. It is more or less like Dahi cultivation which is extensively practised in Sambalpur, Bolangir, Kalahandi, Koraput and Ganjam Mallahs. The Koya term for shifting cultivation is Lankapedseened.

There are other types of cultivation which are more or less akin to the shifting cultivation. They are Taungya cultivation, Dahia cultivation and Thalla or Gora cultivation. The method of raising new crops of forest trees is generally known as Taungya cultivation. In principle, it merely consists in felling a piece of forest in the more or less the fashion under which shifting cultivation is practised.

The agriculturist who undertakes the felling in a particular patch is guaranteed by the forest department this piece of forest land rent free for a couple of years to raise agricultural crops on the condition that he plants out young forest species in such a manner or in such a year of the lease as may be laid down by the forest department. Thus when the agriculturist vacates the land, a young forest crop of trees remains in situ. Taungya cultivation corresponds more or less to agrosilviculture which is conspicuous by its absence in Orissa.

Dahia cultivation is different from Taungya cultivation. In this case branches of trees are cut and spread over cultivated fields at the foot of the hills. After a lapse of time they are burnt so as to provide the soil with the ashes which are required for growing crops.

Another form of Dahia is that the forest growth at a higher level of the hill-slope is cut and burnt before monsoon sets in so that the first shower washes down the ashes into the cultivated fields at the foot-hills. Both the types of Dahia cultivation are practised in western parts of Sambalpur, Nayapara Subdivision of Kalahandi, and in Koraput and Ganjam Mallahs. Thalla and Gora land cultivation is almost akin in many aspects to shifting cultivation. The difference is that the Thalla cultivation is usually done on a

piece of level or slightly sloping land at the foot-hill. Paddy and vegetables are grown on Thalla land.

Techniques of Shifting Cultivation

Shifting cultivation is cultivation by rotation in the hill-slope and hill-top by the method of slash-and-burn tillage. Some of the salient features of the shifting cultivation are listed below—

(1) All activities connected with shifting cultivation are performed mostly by communal labour in Northern Orissa. The hill-slopes which are to be cultivated are chosen at a common village meeting. According to the needs and consent of the community the strips of land are parcelled out among different families inhabiting the village. The lands under shifting cultivation are communally held. But as long as a person is in cultivating possession of a piece of swidden, he is recognised as its owner. As soon as it is left to rest it becomes the property of the community. In Southern Orissa the pattern of ownership in respect of the lands under shifting cultivation is different. The Saora and the Khondas regard the lands under shifting cultivation as their own. Such lands are handed down from father to son. Similarly other tribal communities of Southern Orissa who practise shifting cultivation regard their respective swiddens as private property. The land under shifting cultivation is bought, sold and mortgaged. As a matter of fact the tribes do not have any title in such lands, but the public opinion enjoins individual ownership over lands under shifting cultivation.

(2) The shifting cultivation is carried out both in the hill-slope and at the hill-top in Northern Orissa and only in the hill-slope in Southern Orissa. The jungle-clearing involves cutting down grasses and shrubs, trees and the vines. The tribes of Southern Orissa cut the trees high above the ground leaving the stools of about 2 feet in height whereas those of the Northern Orissa cut the trees flush with the ground. The Juang and the Bhuiyans of Northern Orissa leave the felled trees *in situ* for drying. But the Saora of Southern Orissa cut the felled trees into pieces and pile them in heaps with

other combustible matter at various places in the swiddens. The tribes of Southern Orissa do not usually sow beans in the clearings, and therefore the "ghost forests" of dead trees which are left standing to serve as bean-stalks in the swiddens of the Bhuiyans of Northern Orissa are not met with anywhere in the tribal areas of Southern Orissa.

Most of the tribal communities work the soil in the swiddens by means of hoe or mattock. The tribes of Southern Orissa sow the seeds before the monsoon sets in. But their counterparts in Northern Orissa do it during the monsoon. The women are forbidden to take part in the jungle clearing among the Juang and the Bhuiyans where as there is no such taboo associated with this work among the Saoras and other tribal communities of Southern Orissa. All tribal communities perform the works of weeding carefully in the swiddens. The Bhuiyans and the Juang lop the coppice shoots coming out of the stumps and spread them over for drying and firing. But the Saoras avoid any damage to such shoots as they eat young green leaves of certain plant species and therefore leave the stools unaffected for giving them edible young foliage.

Mixed crops of hill paddy, minor millets, pulses are grown in shifting cultivation and they are harvested in succession. The manner of harvesting as noticed among the Bonda is peculiar from others. From the beginning of September when the first small millets ripen the Bonda reap a small quantity every day, just enough for the day's food, threshing it with their feet, husking, clearing, cooking and eating it immediately. The Saoras have their threshing floors in the swiddens whereas the Dangaria Khond have their threshing floors at the hill-top.

(3) A piece of land is used for two or three years when successively different crops are sown. Then it is abandoned so that it could recuperate. A mixed crop of cereals, millets and pulses such as eleusine, coracana, panicum miliaceum and panicum italicum, sorghum vulgare, panisaeum typhoides, cajanus indicus and dolichus biflorus is grown in the swiddens. The practice of

growing a mixed crop is dictated by their food habits and ecological condition.

The recuperative cycle varies from region to region. It is of a longer duration of 9—12 years in Northern Orissa where as it has been shortened to 4—6 years in Southern Orissa because of the necessity arising out of shortage of land and population explosion for repeated clearing and cultivation. The shortening of the rotating years has caused more damage to the vegetation in the hills of Southern Orissa than in Northern Orissa. In Southern Orissa vegetation has been completely destroyed and the soil has been seriously impoverished and in consequence many hills have been cut-cropped and decrepit of bearing any vegetation.

(4) Certain rituals are attached to shifting cultivation, but the religious significance of shifting cultivation varies from tribe to tribe. For example, the Juang use the fire from Mandagher (bachelors' dormitory) to set fire to the combustible matter in the clearings. But the Saora manage it with a match-box. Moreover, it is the belief of the Saora that if they perform only the ritual ceremonies and work in a perfunctory manner their crops would suffer and would not yield properly. Therefore, their success in Agriculture depends not only upon the ritual performances but also upon their extensive knowledge of crops suitable for cultivation on the hill-slopes, upon the geographic conditions of the locality and upon the hard work done individually or in group.

Area under Shifting Cultivation

Before the Separate State of Orissa was formed in 1936 the problem of shifting cultivation was not a matter of great concern to the administration because the only locality where it was practised was in the Khendmals. The tracts inhabited by the Khond and Saora in Ganjam and Koraput and by the Koya, the Bonda and the Paraja of Koraput were not included until 1936. The tracts inhabited by the Bhuiya, the Juang and the Khond of Keonjhar, Paliabana, Bonai, Barma and Rairakhol and the Khond of Kalahandi were included in the State in 1948. Thus the tract affected by shifting

cultivation was only about 300 sq. miles in extent prior to 1936 whereas it became nearly 12,000 sq. miles in 1948. The population of the hill tribes engaged in this type of cultivation did not fall far below 10 lakhs at that time. The problem since then has become very serious.

The Tribal Research Institute of the Government of Orissa conducted benchmark survey in different parts of the State. Calculated on the basis of this survey the total land affected by the shifting cultivation was estimated at 46,500 acres and the total population engaged in shifting cultivation would not exceed 240,000 people. The estimated area given by the Institute circumscribed the whole tract within which not only the shifting cultivation was carried out but also other types of cultivation akin to it were also practised. Therefore, the area earmarked exclusively for shifting cultivation would be much less. The reason for taking the whole area which included all types of cultivation was that whenever shifting cultivation was exclusively practised, it not only affected the hills but also the surrounding area. As the influence of shifting cultivation was far reaching the entire region within which such cultivation was carried out in a large scale was taken into account for the purpose of analysis of the effects of shifting cultivation. The Appendix-1 shows the areas affected by shifting cultivation in the various districts of Orissa and the tribal population which depends on this method of cultivation for livelihood.

According to the report on Erosion Assessment of Orissa (From Ets-I, Satellite Imagery, 1975) prepared by State Soil Conservation Organisation, Directorate of Agriculture, Government of Orissa, the area which is subjected to very severe erosion as a result of shifting cultivation is estimated at 32,68,120 hectares or 81,72,800 acres or 12,770 sq. miles. Since this area includes hill-slopes, pediment slopes, and rock outcrops, the land under actual shifting cultivation may be less. But lacking accurate data it is difficult to say correctly how much land is presently under active shifting cultivation.

SAORA METHODS OF AGRICULTURE

The Saora of Ganjam district, Orissa practise three kinds of cultivation in the little gardens or homestead lands near their houses, on their terraces, and in the swiddens on the hill-slopes.

The Kitchen gardens raised near their houses are called *Jawamuk* and are carefully fenced and manured with cow dung and village refuse. Vegetables like pumpkin, cucumber, and bean are grown. In some places tobacco, maize and ginger are also grown.

The terraced fields which go by the name *Serban* ar are exclusively meant for paddy cultivation. The terraces are built right up the beds of hill-streams and extends many hundreds of feet from the depths of the valleys to the hill-slopes and in some places rising up to the hill-tops.

The terraces are works of great engineering skill. The platform of each terrace is flat throughout and the fall of each terrace is stone packed. The construction of the terraces is so ingeniously and skilfully made that no soil is carried down by the water that flows from higher terraces to the lower ones.

The water management is equally skilful. The flow of water from one terrace to the other is controlled by channels and out-lets for water which are provided in the ridges of the terraces. The water management is so perfect that it avoids flooding of the terraced fields. In many places water trickles level to level through stone fencings and ultimately flows down into the lands in the plains. But in no case either the soil is carried over by water from the terraced fields or any damage is caused to the stone walls. The ingenious methods of irrigation which have been devised to control flooding of the fields is remarkable.

As water is always available paddy is grown twice a year in the terraced fields. Two varieties of paddy are transplanted in the terraced fields early variety called *Ambe*

Dhan and the late variety called *Bada Dhan*. The Table 1 gives month-wise agricultural operations in the terraced fields.

Table 1
(Agricultural operations of terraced cultivation)

Early variety (Ambe Dhan) Months	Nature of works	Late variety (Bada Dhan) Months
December	1. Preparation of seed-bed.	June
February	2. Transplantation.	July
April	3. Weeding	September
May-June	4. Harvesting	November December

Some progressive farmers among the Saora have taken to cultivation of high yielding varieties of paddy such as *Jaya* and *Ratna* and also apply necessary fertilizers and pesticides which are supplied to them by the Block. As all people do not have terraced fields large-scale adoption of improved agricultural practices is not possible at present. Apart from the shortage of terraced lands the limitations set by the terrain and administrative mismanagement also hinder adoption of agricultural innovations in a wide scale.

Terraced fields are privately owned and are handed down from father to son. They are mortgaged to local money and paddy lenders who are mostly of Pana community. The Pana possess much influence in the Saora country and are mainly brokers, pedlars and sycophants. In short, they live prosperously on the ignorance and superstition of the Saora.

The terraced fields are confined to certain pockets in the Saora country. Therefore the Saors of nearby and far off villages are drawn together to such places where terraced field are available for cultivation. In the case

of shifting cultivation the swiddens are scattered in all hills of the Saora country. The land in one hill is not sufficient for the people of an average sized Saora village for shifting cultivation. Moreover, due to the locational peculiarities not all hills are suitable for the cultivation of different types of crops. Therefore the people of a Saora village have their swiddens in nearby as well as far off hills. The Saora system of agriculture shows that the villages is not central either to the terraced cultivation or to the shifting cultivation.

The Saora observe certain rituals in connection with terraced cultivation. The principal one is connected with transplantation. Before the seedlings are pulled up for transplantation, a ritual is performed in the seedbed. On this occasion dried fish and fowl are offered to a deity called Jatra. The belief is that the deity will be pleased and protect the plants from the attack of the insects and reward the people with a bumper crop. About 40 kgs. of seeds are required for an acre of terraced land which gives an yield of about 800 Kgs. of paddy in rabi season and 600 kgs. of paddy in Khariff season. At the rate of Rs. 0.50 paise per kg. a farmer gets nearly Rs. 400 worth of rabi paddy and Rs. 250 worth of khariff paddy from an acre of terraced land. The total expenses per acre of terraced land come to Rs. 200. Thus a Saora gets a net profit of Rs. 200 rabi crop and only Rs. 50 from the khariff crop.

Shifting Cultivation

The work in the forest-clearings starts from the month of November. The first work which is done in this month is the clearing of the forests and accordingly the month of November is called Gajing gae which means cutting the grasses and clearing the forests. The work of clearing continues till the end of December and therefore this month is called Timber gae which means the month of clearing forests. In these two months the women cut down the under growth and low thicket by means of sickle and men cut down the trees and creepers with the help of axe. After the trees are felled the women chop them into small

pieces and pile the combustible matter into several heaps in the swiddens.

The felled materials which are collected into heaps are left for about three months to dry and in the month of March they set fire to the dried matter and that is why the month is called Ariamsar gae the month of firing. It is the work of women to burn the dried matter. No sacred fire is used for this purpose. Either match-stick or a lighted branch or twig serves the purpose of setting fire to the heaps of combustible matter.

The Saora cut the trees high above the ground so that the stools of the felled trees remain standing. The purpose of cutting the trees-high above the ground is that the coppice shoots which come up from the stools of felled trees such as Berada, Areanda, and Kurui give them tender leaves which they eat by mixing them in the gruel of ragi, their staple food. Therefore, they avoid lopping of the coppice shoots which come up from these stools. They also cause no damage to a creeper called Sametla which also gives them edible leaves.

In the month of April the Saora sow red gram (Kandula) by cropping the seeds in the holes dibbled by means of a digging stick for this purpose in the swiddens. The month of April is thus called Gusang gae, that is, the month of sowing red gram. After the red grams have sprouted they sow all the other seeds mixed together, small and large millets like Kangu (Bural), Jana (Kambur), Ganga (Gamga), Ghantia (Kunui), Kusula (Sa) and Mandia (Barusik) and anything else they have like certain types of beans called Bala (Barunel) and country peas like Jhudenga (Kendarun) and Barugudi (Seralmai), scattering all of them broadcast and then working the soil over with their hoes. As the work of hoeing is done in the month of May it goes by the name Lalae gae, the month of hoeing. They grow one kind of citrus plant called Susunap which provides fibres used for making ropes. The Saora eat the leaves and flowers of this plant. They dry the edible parts of the plant and store them for use whenever needed.

The Saora do not grow bean which the Paudi Bhuinya do in their clearings and therefore do not girdle and kill the trees to make bean-stalks. Nor do they plough over their swiddens in the Bhuinya fashion.

As soon as seeds are sown they do the hoeing of the clearings by means of a forked piece of wood tipped with a pointed iron so that the ashes get mixed up with the soil and also the seeds are covered over.

The task of weeding begins in the month of June and accordingly this month is called *Pujing gaa*, the month of weeding. It is done by women with the help of a knife (*Kadati*) made of iron.

From August to January both men and women guard the crops grown in the swiddens against the depredation of the wild animals such as wild bears (*Kandring Jai*), Porcupine (*Kajing*), Peacock (*Mira*), Bears (*Salu*), and Jungle fowl (*Kandring Im*). For this purpose they erect temporary field huts called *Tukra* or *Ansing* in some convenient place in the swiddens and spend most of their time in these places, watching the crops and scaring away the animals and birds by beat of drums. At night one can see the hill-side dotted with fires and hear the sweet music of the flutes and the throb of the drums.

In August crops like Kusala, Kangu, small Ganga are ready for harvesting. They harvest Kangu and Kusala by removing the ears of the crops with a knife and carry them home where they thresh them indoors with their feet. But they cut the Ganga plants from the base and thresh them with the help of bullocks.

In November crops like Ganga, Ghantia, Barugudi and Jhudanga are ready for harvesting. They remove the ears of Ganga and Ghantia with the help of a knife and take them home to thresh with the help of bullocks. Ghantia is threshed by beating the ears with a stick. Barugudi and Jhudanga are plucked by hand and then dried to take out the seeds by beating them with a stick. Jana and Kandula plants serve as stalks for the Barugudi Jhudangi creepers. Mandia and Jana are harvested in the month of December.

The Saora dry them in the threshing floor and thresh them with sticks. In January Kandula and Baita are harvested. The Saora reap the Kandula by pulling the pods off the shrubs into baskets and thresh them with sticks. Baita is plucked and threshed by removing the cobs.

The Saora plant turmeric in part of swiddens in which other crops are grown. The hoeing of the swiddens helps the turmeric plants to grow well. Turmeric is planted once in two years.

Several ceremonies are attached to the swiddens. A ceremony is performed on the day of sowing. Before the seeds are mixed and sown broadcast the village *Bolya* and *Kudan* worship the hill-gods by offering them liquor and by sacrificing fowl and goat. They worship the goddess *Laxmi* called *Sita* by offering liquor and by sacrificing fowl. A small ritual which involves the offering of either a fowl or a goat to the hill-god called *Barasim* is observed towards the end of August after the Kangu is harvested. The next ceremony follows before the Jana is threshed and Kandula is harvested. On this occasion fowls are offered to the hill-gods. The Saora believe that if these ceremonies are performed, they will get good crop from the swiddens and keep themselves fit throughout the year.

The Saora use their swiddens for only 3 years and leave it fallow for a period of 6 years. During this time they take up another clearing for shifting cultivation. The swiddens are regarded like paddy fields in the plains as private property. In fact, the Saora have no legal right to them at all. They are bought and sold and also mortgaged among themselves. The swiddens are handed down from father to sons. The brothers parcel out the swiddens among themselves equally and also change from plot to plot in rotation according to their convenience and suitability of the swiddens for growing different crops. Some swiddens are good for growing some kinds of crops and some others for other types of crops. For example, Kandula grows very well near the summit of the hills because it receives sun light sufficiently. The swiddens on the hill-slopes in the lower

part of the hills are not suitable for Kandula cultivation for want of sufficient sun light. Taking into consideration all factors-locational, proximity and vegetational cover and man power-the distribution of swiddens among the brothers is made in such a way that all of them get equal opportunity to grow different kinds crops. The swiddens are mortgaged whenever needed. No non-tribal who does not practise shifting cultivation is interested in having land under shifting cultivation on mortgage. Therefore the business of mortgaging the swiddens is confined to the Saoras. A Saora may have his clearings in different hills and he cultivates them in rotation. He has private ownership over a particular strip of land. When he wants to return after shifting elsewhere, he must return to that strip and no other.

It is observed that the hills in the Saora country are distributed on the basis of lineage (Birinda). According to this custom members of a particular Birinda may have

one or two hills exclusively to themselves for the purpose of shifting cultivation. When some one wants to mortgage his land under shifting cultivation he does so to a member of his Birinda. But there are exceptions to this custom.

The swiddens are worked by co-operative effort and reciprocal help which is locally called Ansir. The Saora work in one another's swiddens without any payment of labour charges or wages. But food and drink is provided to the volunteers during the work.

The Saora follow different methods for storing different types of seeds. They store the seeds of Banugudi and Jhudanga in a new earthen vessel the mouth of which is tied with a piece of cloth tightly so that no insect does any harm to the seeds. But they store the seeds of Kangu, Ganga, Janna and Kandula in bamboo baskets which are sealed with straw plastered with mud.

PART III

A CASE STUDY OF SHIFTING CULTIVATION

The case study is related to the shifting cultivation as practised by Kirtan Sabar of Tumkur village situated in Gumma block of Ganjam district.

Kirtan Sabar carries on shifting cultivation in four hills. The distance of these hills from his village and the area of swiddens in each hill is given in Table 2.

Table 2
Distance of the hills and area of swiddens

Name of the hills	Distance from Tumkur in miles	Area under shifting cultivation (in acres)	Location of swiddens in the hills
1. Kasursingh	..	6	2 In the middle of hill-slope.
2. Padusingh	..	4	10 In the middle of hill-slope,
3. Kadisar	..	1	10 Near the summit of the hill.
4. Tangsuruda	..	1	2 Near the summit of the hill.

SHIFTING . . .

For three years from 1970 to 1972 he took up Cedisar hill where he cultivated two acres of clearings. The crops grown in each of these years and the quantity of each crop produced is listed in Table 3.

Table 3
Crops grown in Kedisar Hill with quantity of each crop produced

Name of the crops	Quantity		
	1970	1971	1972
1. Kandula	..	5 Puti	1 Puti
2. Jana	..	3 Puti	2 Puti
3. Kangu	..	1 Puti	..
4. Ganga	..	1 Puti	—
5. Ghantia	..	—	3 Puti
6. Berugudi	..	—	..
7. Jhudanga	..	—	..
8. Mandia	..	—	30 Mana
9. Turmeric	..	—	Rs. 500.00

Explanation of symbols used:—"(-)" not grown, "X" grown but no produce

In 1973 he shifted to Padursing where he cultivated two acres of land for two years, that is 1973 and 1974. The crops grown with quantity of each crop produced is given in Table 4.

Table 4
Crops grown in Padursing

Name of the crops	Quantity			
	1973		1974	
	Puti	Mana	Puti	Mana
1. Kandul	..	6	15	3
2. Jana	..	6	..	4
3. Kangu	..	3	..	1
4. Ganga	..	—	..	16
5. Ghantia	..	—	..	2
6. Mandia	..	—	..	15
7. Turmeric	..	—

Symbol "(-)" means not grown

In 1975 he took up shifting cultivation in Kotursingh. In this hill he has two adjacent patches of swiddens each of one acre in extent. He cultivated only one patch leaving the other one to recuperate. The crops grown in 1975 and 1976 and the quantity of different crops produced are furnished in Table 5.

Table 5
Crops grown with quantity produced

Name of the crops	Quantity					
	1975		1976		Puti	Mono
	Puti	Mono	Puti	Mono		
1. Kandula	++	—	++	2	++	++
2. Jana	++	4	++	2	++	++
3. Kangu	++	1	10	×	++	++
4. Ganga	++	2	++	—	++	++
5. Ghantia	++	—	++	3	++	++
6. Barugudi	++	++	5	—	++	++
7. Jhudanga	++	++	4	—	++	++
8. Mandia	++	—	++	++	4	++
9. Turmeric	++	—	++	++	++	300

(Explanation of symbols used — not grown, × grown but no produce).

Kirtan Saber said that generally Barugudi and Jhudanga are grown in the first year and Ghantia and Mandia in the second and following years. If Jana is grown extensively in the first year, Kandula is grown that year in little quantity. If Kandula is grown extensively in the first year, Jana is grown that year in little quantity. The reason given by him for this is that Jana plants do not allow Kandula plants to grow luxuriantly and vice versa.

In the current year his plan is to take up cultivation in the second strip of land in Kotursingh.

The information so far recorded shows that he did not cultivate all the lands which are under his possession in different hills. He

took up only those lands for shifting cultivation in which turmeric was planted earlier. The land under turmeric plantation requires hoeing for the growth of turmeric tubers. The hoeing which is done in the swiddens as an essential part of agricultural operations for growing crops in the hill slopes serves this purpose.

Economics of Shifting Cultivation

Kirtan Saber incurred the following expenses on shifting cultivation of two acres of land in Kadisar hill. He employed 30 persons for cutting the trees, 20 women for clearing the site, 50 persons for hoeing, 30 persons for weeding, and nearly 600 persons for harvesting Kangu, Ganga, Janna, Kandula, Mandia and Turmeric. The total number of persons worked in the shifting cultivation was 630.

SHIFTING . . .

It is the practice with the Saora that the workers are provided with the food for the labour they put in shifting cultivation. This practice is called *Amsir*. At noon the workers are served with gruel prepared from ragi flour mixed with rice, salap powder and green leaves in sufficient quantity. At the time of hoeing, special types of food and drink are given to the workers. On this occasion cooked

Janna, Rice, Cucumber Curry, Mahua liquor are served to the workers. The work is done amidst feasting, dancing and singing. Though the hoeing is done in the hot sun during the month of May, the workers do not feel fatigued because of the intoxicating influence of the Mahua liquor. What Kirtan Saber spent on food and drink for the workers are given in Table 6.

Table 6
Expenditure on shifting cultivation in two acres of clearings

Nature of work	No. of workers employed	Types of foodstuff offered	Quantity of foodstuff	Price of foodstuff
(1)	(2)	(3)	(4)	(5)
1. All works other than hoeing	580	**Salap powder *Rice Mandia **Green leaves	290 Kgs. 23 Kgs. 65 Kgs. 290 Kgs.	... 38.00 29.00 ...
2. Hoeing	50	Janna rice **Mahua	22 Kgs. 25 Mana	18.00 ...
		Total		85.00

*Rice is mixed in the gruel only by those who are well-to-do and have terraced lands

**These items cannot be converted to cash as they are not marketable commodities

Kirtan Saber has two wives, seven sons and one daughter. His family consists of four adults between 13—40 years and seven children between 1—8 years. The annual household consumption of cereals, minor millets and pulses produced from the swiddens is given in Table 7.

Table 7
Annual consumption of cereals, etc.

Items	Quantity in Kg.	Money value in Rs.
Mandia	720	320
Green leaves	360	(no market value)
Ghantia	120	60
Janna	80	90
Kandula	40	130
Total	1,320	600

For the purpose of assessing the economic condition of Kirtan Saber the average production of different crops for three years in Kadisar hill is calculated. The money value of the crops is given in Table 8.

Table 8
Money value of the crops grown in two acres of swiddens in Kadisar (Refer to Table 3)

Crops	Quantity grown in three years period		No. of years taken into consideration for calculating average	Average quantity		Price
	Puti	Mana		Puti	Mana	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rs. P.						
1. Kandula	..	6	..	2	3	.. 196.00
2. Jana	..	5	..	3	1	14 77.00
3. Kangu	..	1	..	3	..	6 7.00
4. Ganga	..	1	15	2	..	17 17.60
5. Ghantia	..	7	..	2	3	10 70.00
6. Barugudi 77.00
7. Jhudanga
8. Mandia	56	2	..	7 27.50
9. Turmeric 500.00
Total						894.00

The analysis of the production and consumption by his family of the crops grown in the swiddens shows that there is a surplus of produce worth Rs. 294.00.

Besides shifting cultivation, Kirtan Saber comes on terraced cultivation in 2 acres of irrigated terraces and dry cultivation in one acre of unirrigated uplands. He grew two crops of paddy annually in the terraced lands and one crop of paddy in the dry lands. In the year under review, that is, 1976 he got 80 Putis of paddy from these lands. The money value of 80 Putis of paddy is Rs. 3,000. As compared with the produce worth Rs. 447 per acre of clearings under shifting cultivation the produce from the same amount of plain land under settled cultivation in money value is almost Rs. 667. The expenditure on agricultural operations in the plain lands is given in Table-9.

Table 9
Expenditure on wet and dry cultivation in three acres of plain lands

Items	No. of labourers required	Rate of payment	Mode of payment	Amount paid
(1)	(2)	(3)	(4)	(5)
1. Removal of seedlings from seedbed.	9	@ of Rs. 10 per 20 manas of seeds (being the seed rate per acre of land).	Cash	Rs. 30.00
2. Transplantation ..	75	A n s i r (reciprocal labour).		
3. Weeding ..	45	A n s i r (reciprocal labour).		
4. Cutting grass ..	45	A n s i r (reciprocal labour).		
5. Reaping paddy and carrying the paddy bundles to the threshing floor.	120	@ of 2 manas of paddy per day per head.	Paddy	240 manas of paddy Rs. 300
6. Threshing ..	150	(a) At the rate of 3 manas of paddy per day per head. (b) Cooked rice at the rate of ½ manas of rice per head per day (one meal at noon is given to the work-team).	Paddy & cooked food.	450 manas of Paddy or Rs.563. 75 manas of rice or 150 manas of paddy or Rs.188.
7. Iron plough share ..	..	..	Cash	Rs. 10
8. Plough bullocks ..	..	He has one pair of bullocks and two pairs of buffaloes which cost about Rs. 1,000 and they last for 10 years.	..	Rs. 100

Total expenses were in paddy 45 Put is (Rs. 1,126) and in cash Rs. 120.

The pattern of expenditure on agricultural operations in swiddens and plain land shows that all works in the case of shifting cultivation are done by reciprocity (Ansir). But in the case of settled cultivation the mode of payment is of four types: (1) payment in cash for the purchase of iron tools and plough, bullocks and for removing seedlings from seed-beds, (2) payment in paddy for works like harvesting and (3) payment in both paddy and food for works like threshing, and (4) reciprocity for works like transplantation and weeding. In the case of shifting cultivation hoeing is an occasion of festing and drinking. The arduous task of hoeing the swiddens in the scorching rays of the sun in the month of May is done by the team of workers with great enthusiasm in accompaniment of singing and dancing. The corresponding activity in the case of settled cultivation is threshing. On this occasion sumptuous food is provided to the labourers. But the atmosphere of mirth which is characteristic of shifting cultivation does not form part of this or any other operations associated with settled cultivation. Strictly speaking, no comparison is possible between the expenses incurred in both the types of cultivation. In the case of shifting cultivation salap powder, molwae flowers and green leaves form major components of food provided to the work-team. The money value of these items cannot be ascertained as they are not marketable commodities. They are collected from the forests. Moreover these items of food form the principal constituents of the diet of the Saors. Use of money for payment to those who co-operate to help one another in shifting cultivation is conspicuous by its absence. Labour is sought not hired for mutual help in shifting cultivation and the relatives, friends and neighbours join hands on a reciprocal

basis to work in one another's swiddens. The concept of hired labour or labour charges in the context of shifting cultivation is altogether lacking, and therefore payment in cash for labour in such type of cultivation is out of question. Food is served to the team of workers as a mark of friendly obligation and all works relating to shifting cultivation are informal not contractual in nature.

In the context of settled cultivation many significant changes are noticed particularly in the mode of payment and in the manner of organizing the agricultural operations. The reciprocal help (Ansir) continues in certain spheres of work such as transplantation and weeding. The continuity of tradition is also marked in the practice of serving cooked food to the labourers at the time of threshing. Side by side the concept of wage is in vogue and the payment is made either in kind or in cash or in both to the labourers on the basis of the rates which are different according to the nature of work. For example a sum of Rs 10 is paid to the wage earners for removing from the seed-beds required quantity of seedling for transplantation in an acre of land. The labour charges for reaping the crops in the terraced fields are paid in paddy at the same rate (two manas of paddy per day per head) which is commonly followed in the locality. But there are certain items in which cash is required exclusively for payment. Plough, bullocks and buffaloes and iron plough shares are purchased always on payment of cash. The economics of settled agriculture have been in large measure monetized. With the availability of money many new needs for the fulfilment of which cash is prerequisite have enriched the material culture of the Saoras. A list of such new items as required by Kirtan Sabar is furnished in Table 10.

Table 10
(New items of material culture and amount of money paid in 1975)

Sl. No.	Nature of item	Quantity	Amount of money paid
(1)	(2)	(3)	(4)
			Rs.
1	Salt	60 Kgs.	10
2	Kerasin	12 litres	20
3	Oil (groundnut)	—	20
4	Soap	—	50
5	Tea	—	25
6	Clothes	—	250
7	Travelling	—	50
8	Medicine	—	30
9	Radio licence	—	15
10	Battery for radio	—	50
11	Agricultural tools	—	10
12	Land revenue	—	15
13	Plough bullocks	—	100
			Total
			645

These new avenues of expenses have forced Kirtan Sabir to borrow money from local money lenders and diversify his economic life. He has borrowed Rs. 600.00 at the rate of 25 paisa per year per rupee as interest and took up duck rearing ducks. He earned in the year under review a sum of Rs. 365.00 from the sale-proceeds of eggs. He cleared his loan to the extent of Rs. 500.00 by paying 20 Putis of paddy (Rs. 25.00 per Puti of paddy) to the money lender. As stated earlier, he got 80 Putis of paddy out of which he spent 65 Putis in agricultural works and on payment of loan. He used the balance of 15 Putis (worth Rs. 375.00) in food and other domestic expenses. The staple food of the Saora is manda gruel mixed with rice, minor millets, pulses and green leaves. They are not in the habit of buying rice for the purpose of consumption. Nor do they sell paddy for money. In such a situation the only sources of getting money for purposes of paying land revenue and labour charges and meeting the expenses of

certain daily necessities are local money lenders and sale-proceeds of the products of domestic animals.

It is revealed from this case study that both shifting cultivation and terraced or settled agriculture have each certain advantages and disadvantages. Kirtan Sabir enjoys the advantages and endures the disadvantages of both the types of cultivation. Although the disadvantages outweigh the advantages in the case of the shifting cultivation he sticks to it with greatest tenacity. One reason against giving up shifting cultivation and changing over completely to terraced or settled agriculture is that the plain lands are in short supply and he cannot make his both ends meet if he depends exclusively on the terraced cultivation. Moreover, the settled cultivation in the terraced fields and plain lands will not give him those crops which constitute his staple food.

CONCLUSION AND RECOMMENDATIONS

The shifting cultivation is considered devastating and disadvantageous. Some of the evils of this type of cultivation are as follows:—

- (i) It causes the springs to dry up,
- (ii) Causes soil erosion,
- (iii) Ruins valuable timber,
- (iv) Causes very heavy floods, and
- (v) Causes silting of the tanks and fields and destruction of crops.

Based on these reasons, the government have banned shifting cultivation and implemented the policy of reservation and conservation of the forests. In spite of intensive propaganda among the tribals against the harmful effects of shifting cultivation, they show considerable doggedness in sticking to this type of cultivation for the following reasons:—

(1) The land in the tribal areas is in short supply. A study in tribal areas of Ganjam and Koraput reveals that on an average 0.26 to 1.85 hectares of land is available per family in the present situation. The tribals have been deprived of all the best lands in the plains by the process of mounting land alienation. One of the conditions which favour land alienation is the lack of land survey and settlement in the tribal areas. The tribals do not have patta rights over the lands they cultivate and the land tenure is not under ryotwari system. Most of the lands in the tribal areas are in the name of landlords or the erstwhile muttadars and in consonance with them the non-tribal plainmen find it easier to take away the lands from the tribal tenants. In addition to this, the lacunae in the law relating to land alienation have always favoured the cunning non-tribals to circumvent the protective legislation and have access to lands belonging to the tribal people.

(2) The tribals lack the necessary agricultural inputs such as plough and plough-bullocks, seeds and fertilisers, etc., to carry on cultivation in the plains. Without the necessary capital and other infrastructure which are associated with agriculture, it is not possible for the tribals to undertake cultivation in the plains.

(3) For the tribal people money is not as great a factor as the satisfaction of their immediate needs. It is due to this peculiar psychology and lack of future orientation that they are satisfied with the meagre produce they get from shifting cultivation. Even though the produce from the shifting cultivation is not sufficient to fulfil the minimum food requirements, the tribes do not find any other alternative on which to subsist and improve their economic condition.

(4) Most of the tribal people are indebted to the non-tribal traders, merchants and money-lenders. The important reasons for their indebtedness are: (a) unproductive agriculture, (b) expensive festivals and rituals, (c) lack of proper marketing facilities for the forest products which they collect, and (d) the habit of drinking.

Being exceedingly trustworthy, the tribal people believe it as their sacred obligation to pay back their debts whatever might be the burden. But their creditors never wish repayment in cash but aim at the produce raised by the tribals in settlement of the debts. The rate of interest also is never stipulated in terms of money. For each rupee advanced, a specific quantity of produce in the form of paddy, cereal, pulse, tamarind is asked towards interest for the fixed time.

The money-lenders by various dishonest methods such as blank promissory notes in which thumb impression of the tribal debtors are taken without any mention of the amount of the loan lent and use of false weight inflate the debts thus keeping the tribals in debt in perpetuity. In a sense, therefore, the money-lenders have impelled the tribals to continue the practice of shifting cultivation. The shortsightedness of the tribals and the greediness of the money-lenders have been responsible for the impoverishment of the tribal communities.

The shifting cultivation has another problem for consideration. Due to repeated cutting and burning of the forests, most of the hill tracts used for shifting cultivation have become barren. These hill slopes are not conducive to the growth of the forest trees. Large-scale conversion of such tracts into reserved areas does not help very much in augmenting the forest wealth. In fact, what happens is a

result is that the tribals are deprived of their only means of living and are forced to lead a life of poverty and misery. What is, therefore, necessary is that before banning the shifting cultivation sufficient care should be taken to provide the tribals with good land and rehabilitate them in colonies established in suitable places near about their parent habitat.

A plan has been prepared on the basis of recently developed techniques of integrated area development planning for the development of shifting cultivation in the Juangpith of Keonjhar district. The recommendations in the context of controlling the shifting cultivation and bringing about development of the Juang who practise this type of cultivation are as follows:

(1) The Juang may be approached and persuaded to stop second year talla cultivation in the hill-slopes. But they should be allowed to continue the first year talla cultivation for some time to come.

It is recommended that the land extending upto 3 per cent slope should be brought under permanent cultivation immediately. This area will be utilised for intensive agricultural development by supplying necessary inputs like quality seed, fertilizer, pesticide, etc. Many villages have perennial sources of water. Whenever minor irrigation is possible it should be taken up soon and the lands available nearby should be brought under cultivation. By various indigenous methods the Juang harness the hill streams to irrigate the lands under permanent cultivation. Further help in this regard will hasten the transformation from shifting to settled cultivation.

(2) Once the valley-bottom is developed or permanent paddy fields are available, the talla cultivation for the first year can be restricted to a range of slope initially between 12 per cent and 20 per cent for coming five years. After that period the category of land for talla cultivation may come down to between 8 and 12 per cent slopes. At the initial stage Taungya system of horticulture should be done. In the first year talla land they sow the seeds of ringer in the month of July. After the sowing season is over for both talla land and permanent fields (land near homestead land) they should be

encouraged to plant mango, jackfruit, papaya and banana trees just before the end of the monsoon so that such trees will grow satisfactorily without disturbing the growth of oil-seeds. The fruit trees should be planted along the ridges of the talla lands so that they do not interfere with the growth of the cash crops. By the harvesting time these trees will come upto a height of safe growth and when they attain full growth they would prevent further soil erosion and at the same time provide fruits to the tribals. Improved varieties of fruit trees should be grown.

(3) In the second stage, say, after five years, when all land between 12 and 20 per cent slope will be brought under horticulture and people have gained knowledge in horticulture and take interest in maintaining individual orchard, encouragement should be given to them to turn to land having slope between 8 and 12 per cent for this purpose.

Two categories of land namely, land having slope from 8 per cent to 12 per cent and land having slope from 12 per cent to 20 per cent may be utilized simultaneously for horticulture depending upon the availability of such lands in the Juang village. The idea behind this process is that ultimately only the first year talla will be continued for some time to come and the second year talla cultivation will be stopped in course of five years. First year talla will be restricted to the categories of land which have slope from 8 per cent to 12 per cent.

(4) In order to control second year talla cultivation alternate sites for permanent cultivation should be developed simultaneously. These sites are available in flat valley-bottoms and within gentle slope area having 3 to 8 per cent slope. The valley-bottom should be reclaimed immediately and distributed among the tribals. Those farmers who are willing to give up second year talla cultivation are eligible to own land in valley-bottom and should be given all help to take up wet cultivation.

(5) Terraced fields also can be developed in the land having 3 to 8 per cent slope. The greatest handicap in this regard is the heavy financial investment. Even if the financial problem is solved by providing hundred per cent subsidy to the tribals, the terracing has another

problem. It is a time consuming process. A tribal cannot wait for two three years until he gets return from such lands. In such a situation it is recommended that the government should develop the terraced fields without insisting on people's participation and distribute them among the beneficiaries as and when the terraced fields are ready for cultivation. This scheme of terraceing should be taken up at a later stage of development when the tribals have already given up second year tall land cultivation and started wet cultivation in the valley-bottom in a full fledged manner.

(8) Land having above 20 per cent slope may be utilised for development of forests and for pasture.

(7) The tribals should be provided with muzzle loading guns to protect the crops from the depredation of wild animals. Otherwise all attempts at improving agricultural practices as recommended above will be futile. It may be mentioned that in 1974 the whole crop of Taichung paddy grown in valley-bottom by the Juangs of Kadlibedi village was destroyed by elephants, and no assistance was provided to them to keep these animals in check.

(8) Cultivation of hill-tops should be banned forthwith, because it causes degeneration of forest and soil erosion. These hill-slopes should be taken up for aforestation. As the Juangs will be compensated with better land in the hill-slope and valley-bottom they may not resist the proposal of developing reserved forests at the hill-top. This work should be taken up by the forest department and the tribals should be involved in the process from the very

beginning so that they would take interest in protecting it.

Introduction of improved agricultural practices and better land utilization schemes in the Saora region do not pose any serious problem. Terraced cultivation is in existence in this area extensively and the Saoras are skilled in such cultivation. They have also great interest in growing tree crops. In many Saora villages there is extensive plantation of coconut trees and pine apple and vast scope for the development of horticulture. The Saora country is full of Salap and Khejur trees. After conversion to christianity many Saoras have given up drinking toddy and in such a situation there is ample scope for making jaggery from the juice of these trees.

The hill-slopes also present equal scope for the development of shifting cultivation in a scientific manner. In the Saora country the hills are very steep and the lands under shifting cultivation lie beyond 20° slope. In many places terraceing has started even from the summit of the hills but generally it is confined to the area below 20° slope and has extended to the bed of the hill streams. The Saoras in many villages have already adopted improved agricultural practices such as application of fertilizer and hybrid seeds. Transplantation of paddy has been a common practice among them and their water management and contour bunding and terraceing are most skillful. The environmental conditions are so favourable and the people are so much familiar with the improved agricultural practices that only timely technological assistance and supply of inputs in required quantities will surely accelerate economic progress and development in the Saora country.

SHIFTING . . .

APPENDIX I

Area affected by Shifting Cultivation and tubes practising Shifting Cultivation (Sub-Plan Area)

Sl. No.	District	Subdivision	Block	Total area in Sq. Km.	Tribes practising shifting cultivation	Approximate size of the population	(7)
1. Kosaput	Malkangiri	1. Malkangiri	1. Khairapat	..	273.88	Hill Bonda	5,000
		2. Kudumagema	2. Hill Didiyee	..	507.88	Hill Didiyee	2,000
		3. Kalimela	3. 1,052-16	..	1,052-16	Koya	15,000
		4. Padia	4. 907.88	..	907.88	Koya	12,000
		5. Korkundo	5. 819.20	..	819.20	Koya	22,000
		6. Malkangiri	6. 658.37	..	658.37	Koya	8,000
	Rayagada	1. Rayagada	1. Rayagada	..	324.28	Khand	38,000
		2. Kalnara	2. 385-59	..	385-59	Khand	27,000
		3. Kolyan Singhpur	3. 411-18	..	411-18	Khand	22,000
		4. Kastpar	4. 1,502-21	..	1,502-21	Khand	41,000
		5. Deonpur	5. 521.98	..	521.98	Khand, Panja	26,000
		6. Lamjapur	6. 236.20	..	236.20	Khand	20,000
2. Gudari	Gudari	1. Nayangpatna	1. 632-48	..	632-48	Khand	11,000
		2. Bandhogam	2. 95.60	..	95.60	Khand	12,000
		3. Simili Guda	3. 466.21	..	466.21	Gosibba	5,000
		4. Pettangi	4. 517.99	..	517.99	Gosibba	4,000
		5. Gunupur	5. 468-97	..	468-97	Lanja Sora	20,000
		6. Gudari I	6. 273.56	..	273.56	Kutia Khand & Khond	5,000
		7. Gudari II	7. 532.48	..	532.48	Kutia Khand	11,000

4.	Bissam-Cuttick	..	419/53	Dumgarh Kondh	..	18,000
5.	Ramanguda	..	453/25	Kutia Khond	..	2,000
6.	Muri guda	..	459/20	Kutia Khond	..	5,000
						340,000
2	Ganjam	..	1. Guma	494/08	Lanja Sora	..
			2. Rayagada	122/03	Lanja Sora	..
			3. Nuapah	648/13	Lanja Sora	..
			4. R. Udayagiri	612/00	Lanja Sora	..
			5. Mohana	1,303/07	Lanja Sora	..
						11,528/07
						79,000
3	Sundargarh	..	1. Boni	254/35	Pauki Bhuiya	..
			2. Luhunpada	775/68	Pauki Bhuiya	..
			3. Guenda	402/83	Pauki Bhuiya	..
			4. Karia	837/20	Pauki Bhuiya	..
						2,270/08
						15,000
4	Koraput	..	1. Keonjhar	..	819/48	Pauki Bhuiya
			2. Harichandrapur	..	592/02	Hill Juang & Bhuiya
			3. Bargarh	..	1,116/23	Hill Juang
						2,627/73
						28,000

SHIFTING....

Sl. No.	District	Subdivision	Block	Total area in Sq. Km.	Tribes practising shifting cultivation	Approximate size of the population
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5 Phubani	..	1. Baiguda	..	640.00	Khond	16,000
	..	2. Nuagan	..	430.84	Do.	14,000
	..	3. Daringbodi	..	1,211.00	Do.	29,000
	..	4. Kotgarh	..	1,638.40	Do.	13,000
	..	5. Thabali	..	303.20	Do.	16,000
	..	6. G. Udayagiri	..	161.14	Do.	12,000
	..	7. Rakia	..	615.14	Do.	16,000
	..	8. Chakpad	..	311.20	Do.	13,000
	..	2. Khondmal	..	1,154.56	Do.	11,000
	..	1. Tumudibamhi	..	..	..	13,000
	..	2. Phulbari	..	472.40	Do.	17,500
	..	3. Khipungoda	..	627.36	Do.	28,000
	..	4. Phingria	..	1,146.96	Do.	..
					Total	195,000

6	Kalabandi	..	1. Bhawaniipatna	..	1. Thamul-Rampur ..	323-76	Khond	..
			2. Lanjigarh	..	2. Lanjigarh ..	989-74	Do.	..
			Total	..		1,323-50		
7	Sambalpur	..	1. Kuchinda	..	1. Gobindapur ..	526-87	Khond	..
					2. Jamaskira ..	988-68	Do.	..
					3. Kuchinda ..	417-71	Do.	..
			Total	..		1,913-24		
			Grand Total	..		30,977-91		

NON-SUB-PLAN AREA

SL No.	District	Subdivision	Area (Subdivision)	Area	Tribes	Population	Remark	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1	Sambalpur	..	Deogarh	..	1. Deogarh ..	2,781-7	Khond	..
					2. Rainikhol ..	2,167-6	Do.	..
			Total	..		4,939-2		
2	Dharkanai	..	Pallahara	..	1. Pallahara ..	1,167-0		4,410
			Grand Total	..		6,106-2		14,412

Jhirpani—A tribal village in the hinterland of Rourkela Industrial Complex

SAILABALA DEVI

Introduction

According to the 1971 Census, tribes comprise 23·11 per cent of the total population of Orissa. 13·35 per cent of the total tribal population of the country are found, in Orissa alone. Table 1 gives the Statewise scheduled tribes population of the country.

Table 1
Distribution of Scheduled Tribes (1971 Census)

State	Population total in '000'	Scheduled Tribe population	Percentage of Scheduled Tribe to total population
(1)	(2)	(3)	(4)
Andhra Pradesh	43,503	1,657,657	3·81
Assam	14,958	1,919,947	12·83
Bihar	56,353	4,932,767	8·76
Gujrat	26,897	3,734,422	13·98
Haryana	10,037	...	...
Himachal Pradesh	3,460	141,610	4·09
Jammu & Kashmir	4,617	...	...
Kerala	21,347	269,356	1·26
Madhya Pradesh	41,654	8,387,403	20·13

State	Population total in '000'	Scheduled Tribe population	Percentage of Scheduled Tribe to total population
			(1)	(2)	(3)	(4)
Maharashtra	50,412	2,564,249	5.86
Manipur	1,073	334,466	3.12
Meghalaya	1,012	814,230	8.04
Mysore	29,299	231,268	0.78
Nagaland	516	457,602	88.68
Orissa	21,945	5,071,937	23.12
Punjab	13,551	—	—
Rajasthan	25,768	3,125,506	12.13
Tamilnadu	41,199	311,515	0.76
Uttar Pradesh	83,341	198,565	2.38
Tripura	1,556	450,544	2.88
West Bengal	44,212	2,532,969	5.73
India	547,950	38,016,162	6.94

Source—Census of India, 1971

Among the districts of Orissa, Sundargarh occupies the third place in terms of percentage of tribal population. It has a total tribal population of 550,401 which constitutes 53.3 per cent of the total population of the district. A districtwise distribution of tribal population in Orissa has been given in Table No. 2.

Table 2
Districtwise distribution of tribal population of Orissa, 1971 census

Name of the district	Total population of the district	Population of scheduled tribe in the district	Percentage of scheduled tribe population to total population of the district
(1)	(2)	(3)	(4)
Sambalpur	1,844,898	519,046	28.1
Sundargarh	1,030,758	550,401	53.3
Keonjhar	355,514	448,675	40.9
Mayurbhanj	1,434,200	839,835	58.5

Name of the district	Total population of the district	Population of scheduled tribe in the district	Percentage of Sche duled tribe population of total population of the district
(1)	(2)	(3)	(4)
Balasore	1,830,504	128,192	7·0
Cuttack	3,827,678	110,746	2·8
Dhenkanal	1,293,914	166,998	12·9
Phulbani	621,675	250,606	40·3
Balangir	1,263,657	249,131	19·7
Kalahandi	1,163,869	340,541	29·2
Koraput	2,043,281	1,151,231	56·3
Ganjam	2,293,808	228,945	9·9
Puri	2,340,889	86,591	3·6
Orissa	21,944,615	6,071,937	23·1

Source—"Adibasi" July & October, 1972—Vol. XIV—1972-73

Nos. 2 & 3—Tables 1-B, Page—16

In recent years both the Centre and the States have spent a huge amount of money on different programmes of development of the welfare of the backward population like Scheduled Tribes and Scheduled Castes. Many surveys have been conducted at the national and regional levels to help the planners to formulate projects of economic development of the poorer sections of the country.

In this paper an attempt has been made to assess the economic condition of the tribes in comparison to the non-tribes inhabiting the periphery of the Rourkela Steel Plant in the district of Sundergarh with the help of a case study conducted in the Jhiripani village.

About the Village

The present inhabitants of Jhiripani were living in 13 small villages in the vicinity of the Rourkela Steel Plant. They were displaced in the wake of the Rourkela Steel Plant and were resettled in a colony presently known as village Jhiripani. The village has an area of about 1,085 acres. It is situated with the Regional Engineering College in the South, the river 'Koil' in the North, The H. S. L. in the West and the village Jamasagarh old fort in the East.

Methodology

The total number of households in the village was 783 and the total population according to 1971 census was 3,842. For the purpose of the present study a sample of 50 households selected at randomwise taken for the purpose of study. Data were gathered by means of a structured questionnaire and the field work was conducted in the month of October 1976-77.

Population Characteristics

The total population of the surveyed households was 340, out of which 278 or 81·76 per cent of the population were tribes and 62 or 18·24 per cent of the population were non-tribes.

The average size of the household of the village based on the sampled households was 7. Table No. 3 gives a complete break up of households according to size.

Table 3
Distribution of households in Jhirkani according to size

Size of the household	Number of households		Total
	Scheduled Tribe	Non-tribe	
5	11 (22.00)	11 (22.00)	22 (44.00)
6	22 (44.00)	6 (12.00)	28 (56.00)
Total	33 (66.00)	17 (34.00)	50 (100.00)

(Figures in the parentheses indicate percentage)

The analysis of Table 3, reveals that 22 per cent of the total households of both tribal and non-tribal families consisted members ranging from 1 to 5. But 44 per cent of the tribal families and 12 per cent of non-tribal families comprised more than 5 members. The χ^2 test showed that there was a significant difference between the size of the tribal and non-tribal families.

Table 4
Age-Sexwise distribution of earners and non-earners of Jhirkani

Age-Group	Males				Female				Total	
	Earners		Non-earners		Earners		Non-earners			
	T.	N. T.	T.	N. T.	T.	N. T.	T.	N. T.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Below 15	..	..	68	8	..	..	64	8	148
			(20.00)	(2.35)			(18.82)	(2.35)	(43.52)	
15-24	4	7	20	4	2	..	40	6	83	
	(1.18)	(2.06)	(5.88)	(1.18)	(0.59)		(11.76)	(1.77)	(24.42)	
25-34	15	6	3	1	1	2	9	4	41	
	(4.41)	(1.77)	(0.88)	(0.29)	(0.29)	(0.69)	(2.65)	(1.18)	(12.05)	
35-44	18	3	..	..	2	..	6	3	30
	(4.70)	(0.88)			(0.59)		(1.77)	(0.88)	(8.82)	
45-54	5	2	..	..	2	..	10	1	20
	(1.48)	(0.59)			(0.59)		(2.94)	(0.29)	(5.89)	
55-60	4	3	..	..	..	..	2	2	11
	(1.18)	(0.88)					(0.59)	(0.59)	(3.24)	
61 & above	2	1	..	..	1	..	2	1	7
	(0.59)	(0.29)			(0.29)		(0.59)	(0.29)	(2.05)	
Total	46	22	91	13	8	2	133	25	340	
	(13.54)	(6.47)	(26.76)	(3.82)	(2.35)	(0.59)	(39.12)	(7.35)	(100.00)	

(Figures in the parentheses indicate percentage)

T = Tribe
N. T. = Non-tribe

The analysis of Table 4 indicates that 43.52 per cent of total population were below 15 years of age and 2.05 per cent above 61 years of age. Out of the total population only 15.89 per cent of the tribal population were earners while the remaining 65.88 per cent were dependents. Amongst the non-tribals only 8 per cent of the total population were earners while 12 per cent of the non-tribals were dependents. Hence, the analysis reveals that the ratio of economically inactive population to economically active population was very high in the village. Among 22.95 per cent of the total earners in the sample households the females were only 2.94 per cent of which 2.35 per cent were tribes and the rest 0.59 per cent were non-tribals.

Information were also collected regarding the educational attainment of the inhabitants of the colony. There were 7 schools in the colony starting from Lower Primary up to High School. Besides, there was a craft training School and one School of adult education centre for women. Both of them are managed by the Gram Panchayat. The Table 5 provides information regarding educational attainment.

Table 5

Distribution of the population according to their educational attainment

Level of education	Male		Female		Total
	Tribes	Non-tribe	Tribes	Non-tribe	
(1)	(2)	(3)	(4)	(5)	(6)
Illiterate	46 (13.53)	7 (2.06)	91 (26.76)	7 (2.06)	151 (44.41)
L. P. and below	35 (10.29)	13 (3.83)	10 (2.94)	10 (2.94)	68 (20.00)
U. P.	17 (5.00)	1 (0.29)	10 (2.94)	7 (2.06)	35 (10.29)
M. E.	13 (3.83)	13 (3.83)	9 (2.66)	4 (1.18)	39 (11.49)
Matric	20 (5.68)	3 (0.88)	17 (5.00)	3 (0.88)	43 (12.46)
I. A./I. Sc.	..	..	..	..	..
B. A./B.Sc.	3 (0.88)	..	..	..	3 (0.88)
Post-Graduate	..	..	..	..	..
Technical	1 (0.29)	..	..	..	1 (0.29)
Total	135 (39.70)	37 (10.89)	137 (40.29)	31 (9.12)	340 (100.00)

(Figures in the parentheses indicate percentage)

The analysis of Table 5 reveals that out of the total population surveyed in the village 44·41 per cent were illiterate of whom 40·29 per cent were tribes and 4·12 per cent were non-tribes. Among the literates the majority (20 per cent) were of lower primary standard or below. It was seen that the literacy percentage among the tribal females was more. The survey further revealed that the tribal females having U. P., M. E. and Matriculation qualifications constituted a relatively larger proportion than their non-tribal counterpart.

Occupational Pattern

As the village was a resettlement colony, there was no agricultural land in the village. Most of the people in the village were employees of the Rourkela Steel Plant. The main occupations followed by the villagers were classified in to five categories as agriculture, labour, service, trade and profession. The details of occupational pattern of the households has been given in Table 6.

Table 6
Distribution of households according to their main occupation

Occupational Pattern	Number of house holds		Total
	Tribe	Non-tribe	
(1)	(2)	(3)	(4)
Agriculture	1 (2·00)	...	1 (2·00)
Labour	4 (8·00)	4 (8·00)	8 (16·00)
Service	26 (52·00)	11 (22·00)	37 (74·00)
Trade	1 (2·00)	2 (4·00)	3 (6·00)
Profession	1 (2·00)	...	1 (2·00)
Total	33 (66·00)	17 (34·00)	50 (100·00)

(Figures in the parentheses indicate percentage)

The analysis of Table 6 indicates that 62 per cent of the tribal households were engaged in service that is employed in the steel plant. The corresponding figure for the non-tribal households was 22 per cent. Only 8 per cent of the total households were engaged either in trade or profession. Only one household in the village was engaged in agriculture as the main occupation. 4 tribal households and 3 non-tribal households practised agriculture as their subsidiary occupation. It was found that 86 per cent of the households did not have any subsidiary occupation.

Income of the households

The level of income is considered to be the best indicator of economic welfare of its people. The total annual income of the surveyed households in Jhiriapani in the year 1975 was about 5·6 million rupees. Hence the estimated average annual per capita income of the village was Rs. 1,036·00 which was higher than the per capita income of Orissa in 1971-72 i. e. Rs. 511 at current prices. It could be easily said that all the villagers of Jhiriapani were living above poverty line. The distribution of household according to their annual per capita income is given in Table 7.

Table 7

Distribution of Households in Jhirpani according to the annual per capita income in 1975-76

Level of income (in Rs.)	Number of Households		Total
	Tribal (1)	Non-tribe (2)	
Below 100
100—300	..	3 (6.00)	3 (6.00)
301—500	..	2 (4.00)	3 (6.00) 5 (10.00)
501—700	4 (8.00) 4 (8.00)
701—900	..	7 (14.00)	2 (4.00) 9 (18.00)
901 and above	..	21 (42.00)	8 (16.00) 29 (58.00)
Total	..	33 (66.00)	17 (34.00) 50 (100.00)

(Figures in the parentheses indicate percentage)

The total expenditure in the surveyed households during 1975-76 in the village was about 4.7 million rupees. The estimated average per capita expenditure during the year was roughly Rs. 887. In Table 8, the distribution of expenditure of the households in Jhirpani is given.

Table 8

Distribution of expenditure on different items of the households in Jhirpani

Items of expenditure	Less than 10 per cent		10—30		30—50		50—70		70—90		90—100	
	T	N-T	T	N-T	T	N-T	T	N-T	T	N-T	T	N-T
Food	2	..	4	4	22	11	5	2
Clothing	..	10	3	30	6	1	..	..	..	..	..	..
Education	..	25	6	6	2	..	..	..	..	..	..	..
Medicine	..	20	3	..	..	..	..	..	..	..	..	..
Smoking etc.	..	30	1	10	5	..	..	..	..	..	..	..
Alcohol	..	36	3	..	..	..	..	..	..	..	..	..
Ceremony	..	30	9	5	3	..	..	..	..	..	..	..

T—Tribe

N-T—Non-tribe

The items of expenditure were classified under 7 broad categories such as food, clothing, education, medicine, smoking, alcohol and ceremony. The analysis of Table 8 indicates that out of 50 households 33 households (22 tribal households and 11 non-tribal households) spent 70—90 of their income on food. 5 tribal families and 2 non-tribal families spent their entire income only on food. From the pattern of expenditure, it was clear that smoking, etc. and tea was a necessary item of expenditure for almost all the households. 30 tribal families and one non-tribal family had spent less than 10 per cent of their income on smoking while 10 tribal families and 5 non-tribal families spent 10—30 per cent of their income on smoking. Alcohol was also a very essential item of expenditure in the village among tribes. 36 tribal households and 3 non-tribal households had spent less than 10 per cent of their income on alcohol. Ceremonies were not neglected both by the tribes and non-tribes of the village. 30 tribal households and 9 non-tribal households spent less than 10 per cent of their income on ceremony while 5 tribal and 3 non-tribal households spent 10—30 per cent of their income on ceremonies. As the scheduled tribes are provided with free education, the amount spent on education was small. The H. S. L. employees were provided with free medicine and free treatment in the Ispat General Hospital, Rourkela. Among the sample households 20 tribal and 3 non-tribal households spent less than 10 per cent of their income on medicine.

More than half of both tribal and non-tribal families incurred debts either for the construction of their houses or for the marriage of their children. Among the sample households 48 households could save after meeting their expenditure out of their own income. For the analysis of savings and loans of the households, the households have divided into 2 categories—such as (i) the households whose average annual income is up to Rs. 500 and (ii) the households whose average annual income is above Rs. 500. The Table 9 shows the amount of savings of the households.

Table 9
Savings of the Households in the village Jhapani (1976)

Amount of savings (Rs.)	Number of households of annual average Income up to Rs. 500.00		Number of Households of annual average Income of Rs. 500.00 and above		
	(1)	Tribe	Non-tribe	Tribe	Non-tribe
		(2)	(3)	(4)	(5)
Below 100	..	3 (21.41)	2 (14.28)	..	..
100—300	..	2 (14.28)	..	..	..
300—500	..	1 (7.15)	1 (7.15)	..	..
500—700	..	1 (7.15)	1 (7.15)	4 (13.33)	3 (10.00)
700—900	..	1 (7.15)	..	2 (6.67)	..
900 and above	..	2 (14.28)	..	14 (46.67)	7 (23.33)
Total	..	12 (71.42)	4 (28.58)	22 (66.67)	10 (33.33)

(Figures in the parentheses indicate percentage)

Table-9 shows that only 2 tribal households whose annual average income was less than Rs. 500 could save above Rs. 900 in that year. The savings of 3 tribal households and 2 non-tribal households of this income group was below Rs. 100-00. In contrast to the savings of income group up to Rs. 500, 14 tribal households and 7 non-tribal households could save Rs. 900 whose annual average income was more than Rs. 500. The savings of this income group started from Rs. 500. The table 10 shows the loan position of the village.

Table 10

Loan of the households in the village Jharpanti

Amount of loan	Number of households of annual average income up to Rs. 500-00		Number of households of annual average income of Rs. 500 and above	
	Tribe Non-tribe		Tribe Non-tribe	
	(1)	(2)	(3)	(4)
Below 100	..	4 (20-00)	3 (15-00)	2 (28-58)
100—300	..	2 (10-00)	2 (10-00)	.. (14-00)
300—500	..	3 (15-00)	1 (5-00)	2 (28-58)
500—700	..	2 (10-00)	.. (14-28)	1 (14-28)
700—900	..	1 (5-00)	1 (5-00)	.. (5-00)
900 and above	..	1 (5-00)	.. (5-00)	.. (5-00)
Total	..	13 (85-00)	7 (35-00)	5 (71-44)
				2 (28-58)

(Figures in the parentheses indicated percentage)

Only 27 households incurred debt to meet the expenses of construction of houses and marriages. The households in debt mostly belonged to the group having annual average income less than Rs. 500. Community wise considered 13 tribal families having average annual income below Rs. 500 were in debt. Out of the said 13 households only one household had incurred loan of an amount above Rs. 900 in the year 1975. In contrast to this no non-tribal family of this income group had incurred loan above Rs. 900.

On the whole the tribes and the non-tribes alike were better off and as the service in the Steel Plant was the primary source of livelihood it has certainly contributed to the economic development of the people. It is hoped that further adjustment of the people to the industrial discipline will bring more improvement in their economic life than what was the case at the time of survey.

Koraput—A Tribal Linguistic Area

K. MAHAPATRA

1. Koraput, located between $20^{\circ} 7' N$ and $17^{\circ} 4' 8'' N$ latitudes and $80^{\circ} 24' E$ and $84^{\circ} 2E'$ longitudes, is bounded by Andhra Pradesh on the south and east and by Madhya Pradesh on the north and west. The district has an area of 9918.95 square miles which is mostly covered with rolling mountains and dense forests. According to 1961 Census it has a total population of 14,98,271 persons.

Koraput is the land of the aborigines. There are as many as 51 tribal and 73 scheduled caste communities which constitute respectively 60% and 12.4% of the total population of the district. In addition to this, out of the rest bulk of population nearly 10% come under the backward class. These people, taken together, are a heterogenous composition of three different ethnological groups, such as, Aryan, Dravidian and Austic, and speak a large variety of dialects which are not mutually intelligible. It has been very aptly stated by R. C. S. Bell that, "The languages of the district form a veritable Babu" (District Gazetteer of Koraput, 1948). In this sparsely populated small stretch of land as many as 20 different languages are spoken and people living inside a village speak altogether different speeches. A list of the important languages of the area is given below:—

(Figures in parenthesis indicate number of speakers, 1961-Census)

(A) Aryan Group—		
1. Oriya	..	(90876)
2. Desia	..	(—)
3. Bhatri	..	(133211)
4. Jharia	..	(2032)
5. Halbi	..	(1886)
6. Laria	..	(539)
(B) Dravidian Group—		
7. Telgu	..	(86097)
8. Kui	..	(162518)
9. Kondh/Kuvi	..	(979031)
10. Kondh	..	(10930)
11. Pengu	..	(1254)
12. Koya	..	(31052)
13. Gondi	..	(18098)
14. Parji	..	(83914)
(C) Munda Group—		
15. Gadba/Gutob	(31,791)	
16. Parengs/Gorum	(6,702)	
17. Bonda/Remo	(4,677)	
18. Dideyi/Gta ?	(1,978)	
19. Saora/Sora	(55,418 including Lochha—16,620)	

2. Genetic relationship among the languages of each group—

ARYAN GROUP

O. I. A.

M. I. A.

Eastern Prakrit

Magadhi

Aedha-Magadhi

Kosai

Audi

Desa

Halbi

Chatisgarhi

Bhatra—Jharia—Laria

DRAVIDIAN GROUP

Proto-Central Dravidian

Telugu

Parji

Ollari

Kui

Kuyi

Konda

Pengu

Koya

Gondi

MUNDA GROUP

Proto-Munda

South Munda

Sora

Gorum

Gutob

Remo

Gia ?

NOTES

The five Aryan dialects though originate from two (or three ?) different streams of Prakrit and Apabhramsa, merge into one another at the confluence or Marathi, Oriya and Eastern Hindi. In this peculiar situation of Linguistic osmosis it is extremely impossible to identify these dialects as belonging to one or the other major language. So long Halbi has been a point of dispute and is still being treated as a dialect of Marathi. Desia-Bhami, Desia-Halbi-Jharia, Desia-Laria-Chatisgarhi may be treated as three inter-related sub-groups, which taken together form the tribal Aryan dialects of Koraput.

In the Dravidian group of languages leaving aside Telugu as it is not a tribal language, we find four main branches, such as, Parji, Konda, Pengu and Gondi. Parji and Olleri are related to each other. Koya is related to Gondi not as a dialect but as a member of the sub-group and has such much affinity with Kooda Pengu is closely related to Konda and forms a connecting link with Gondi. Kul, Kuvi and Konda are the speeches of the Kondh tribe. Apparently another section of the kondhs prefer to denominate their language according to their tribal name 'Kuvi'. Jetapu Kondha are the speakers of 'Kuvi'. Konda means mountain.

The languages of the Munda family are broadly divided into three branches—North Munda, South Munda and Central Munda. Central Munda is nearer to South Munda. In fact, Central Munda and Koraput Munda can be taken as two branches of South Munda. Koraput Munda is divided again into two branches one being the Sora-Gorum branch and the other being Gutsob-Remo-Gta ? branch. Gta ? is again another off shoot of this branch and is more akin to Remo than to Gutsob, another off shoot.

3. The Link-language among the Linguistic groups —In the peculiar linguistic situation in Koraput the necessity of a common speech for inter-community social transactions is met with DESIA. It is the second natural language of the non-Aryan tribes who are by birth bilinguals. The entire tribal

population of Koraput identify themselves as 'Desia' which means etymologically 'native', 'indigenous', 'aboriginal' and therefore, their common language is denominated as 'Desia' or the speech of the region.

Desia is based on an old Aryan speech which was probably current in this region in the form of Odri Vibhava. According to Markedeva, the Odri vibhava is a mixed dialect which comes off by adding local words of the Odri country and of Saunseeni etc., to Sabari alone (Prakitasvayam, 15-9). Desia has all these characteristics as it has affinities with Chatisgarhi which through Eastern Hindi is descended from Saunseeni and with the tribal languages of the Dravidian and Munda families which are indicated in general as Sabari. Such an old form of the language could be retained is no wonder because of its close contact with tribal languages and long isolation from the influence of modern Oriya. However Desia attained the status of 'Lingua franca' from the middle of the 15th century A.D. when the Suryavamsi kings of Orissa established suzerainty over the Nandapur Kingdom of the Silvansis. During the past 500 years it has retained that position and character by serving as the link language in the multilingual tribal society of Koraput.

4. Koraput as a Linguistic area —Koraput being a multifamilial and multidialectal district with Desia as the connecting link among various linguistic groups is a suitable field for comparative studies in Munda, Dravidian and Indo-Aryan languages. Prof. M. B. Emenau conceived India to be an ideal point of study as a linguistic area. In his two most inspiring papers (*India as a linguistic area. Language*, 32, 1956 and *Dravidian and Indo-Aryan: The Indian linguistic area. Berkely*) has proved to some extent how in India languages belonging to three different families show certain traits in common which are found not to belong to the other members of one of the families. However, he has to concentrate mostly on cases of diffusion between Dravidian and Indo-Aryan only due to lack of adequate data on Mundas, particularly South Mundas, at that time. It seems, within India, Koraput provides an ideal situation for further studies

in this direction as here one finds (i) convergence of languages and dialects belonging to the three families, (ii) diffusion of linguistic traits across genetic boundaries and, (iii) hybridization of languages due to extensive bilingualism. A study of Desia gives ample evidences of mutual crowning borrowing among genetic languages of the three families and development of certain common traits in these languages. As an example it may be cited that in most of the Dravidian and Indo-Aryan languages echo-words are derived by changing the consonant (s) of the base-words, whereas in almost all the tribal languages of Koraput, including Desia, it is done by changing the vowels only. It seems this process of echo formation is essentially a Munda feature, specifically a characteristic feature of the Koraput Munda languages.

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and that has been diffused into all feature the tribal dialects spoken in that area, either directly or through Desia.

The languages of Koraput were unknown to the world till the other day. It is only during the past twenty years there have been considerable connaissance works due to the initiative taken by scholars like M. B. Emeneau, T. Burrow, F. B. J. Kuiper, H. J. Pinnow and Norman H. Zide. Particularly, Burrow and Zide with their collaborators have done most creditable works in bringing to light the Dravidian and the Munda languages of Koraput, respectively. A selected bibliography of their works is given below to show the latest position of materials to be available for a study of multifamilial sprachbund in the Koraput area.

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[Abbreviations —IL, -Indian Linguistics, IPLS —Indo-Pacific Linguistic Studies, Ed. J. A. E. Henderson, AIOC —All India Oriental Conference, FIALC —First International Austroasiatic Linguistic Conference, Hawaii, 1973, IIJ.—Indo-Iranian Journal].

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The Onge of Little Andaman— Their Material Culture

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Research Worker

Abstract

An attempt has been made here to present an account of the observations recorded on the material culture of the Onge of Little Andaman, mostly based on first hand information, collected during a stay of about two months in Little Andaman. It is expected that these observations will prove to be of some use towards a better understanding of this dwindling tribe. The paper also makes an attempt to show how far the ecology of the Onge is responsible for variations in their cultural patterns.

Introduction

The native island of the Onge is Little Andaman, the southernmost island of the Andaman group, situated between 92°30' and 92°52' parallels East Longitude and 10°30' and 10°53' parallels of South Latitude between Great Andaman and Nicobars in the Bay of Bengal. The northern end of this island is about 60 miles from Port Blair and Southern end is about 80 miles from Car Nicobar. It covers a land area of 282.46 Sq. miles, the maximum length and breadth being 27 miles and 15 miles respectively. The whole island is covered with dense tropical wet evergreen forests. More than half of the area is comparatively flat but steep hill slopes do occur here and there specially towards west

of southern half of the island. Movements are very difficult in the jungle, there being no roads or paths.

The total population of the Onge enumerated in 1951 Census was 129 (male 69 and female 70).

Natural Environment and Resources

The Onge depend on the forest for wild roots, fruits and honey and wild animals particularly pig which form their staple food. They shoot fish from the sea by means of bow and arrow and supplement their diet. For convenience and easy access they generally select an open spot on the coastal side of the sea as well as in the interior of the forest area, for their settlement. These places are accessible to a tropical vegetation as well as marine supplies for their sustenance. The forests inhabited by the Onge support games of wide variety such as pigs, deer, hare, rats and birds. Being located in the tropical region the island of the Onge is characterised by a heavy rainfall. In rainy season the Onge find themselves unable to go out frequently into the forest in search of games. Naturally, they are found to move around the coastal belt and hunt their daily requirements from the sea. The natural environment and the forest and sea

resources have moulded to a great extent their material culture, i.e., the size of hut, their food habit, social organisation and also their nomadic life.

The Onge are a carefree people, having very few and simple requirements, most of which are met from the forest or the sea. They do not believe in unnecessary accumulation of articles and are satisfied with meeting their requirements as and when necessity arises.

Their articles of material culture viz. canoes, utensils, ornaments and bows and arrows are different from those of the great Andamans. The women wear a tassel and the men put on a loin cloth.

They live in large circular be-hire type of huts which are common all over the island. The huts each having a name of its own vary in size. In each hut three to four families live and lead a communal life. Wooden platforms are raised in the hut on which the families sleep.

They cook their food near the wooden platforms. Only on festive occasions there is community-cooking which is done in the central part of the hut. On such occasions the Onge dance in the central part of the hut. The Onge women give birth to children in these huts. They marry in the huts and are buried under the wooden platforms after death.

The following few items constitute their property :—

Dwellings

(a) *Bears*—These are semi-permanent structures of a model peculiar to the Onge. These huts, though built and owned by one family, are used by others also. In outside appearance they look like an inverted semi-circular disc with a low entrance on the side where one can enter by stooping halfway. They are built on a ingenious semi-circular framework of cane (*Rohwage*) supported in the centre by a single pole of *Tejia* (*Mimicrops Attenuata*) and on the sides by miscellaneous hardwood posts of *Bataga*, *Kibotilebe*, *Chanara*, *Famolangeeru*, etc.

Thatching is very crafty and is made of rectangular thatches of cane leaves overlapping each other on sides. These thatches are made by putting the midribs of cane leaves adjacent to one another and tying them firmly. Such thatching is almost leak proof and lasts for two to three years.

Along the periphery of the hut, are made the family *machans* or platforms which are meant for sleeping purposes. Each family has a platform of such type of its own. These platforms are raised about 2 ft. from the ground level on wooden posts and are made of split cane giving them a smooth, almost level surface. Giant bamboos or miscellaneous hardwood billets are put on all the four sides. The platforms measure each about 3 ft. X 4 ft. to 4½ ft.

The community huts are mostly situated close to the sea coast and the entrance faces away from the coast. A few huts seen in the interior of the forest were not in use and mostly in ruins. The community huts of the Onge are not always very sanitary. There is generally no provision for ventilation and it is all dark and damp inside. Selection of site also is not always good.

(b) *Korale*—These are temporary lean-to shelters built by the Onge when in transit or on hunting and fruit collecting expeditions. It is felt that now-a-days the Onge prefer to stay in these temporary shelters except during the rainy season. Site selection is not always good and sometimes these temporary huts were noticed very near mangroves and other unhealthy localities.

The construction is ordinary lean-to type with miscellaneous hard-wood props, cane frame and thatching of *Pandanus*, *Canna* or cane leaves. *Pandanus* leaves are put with their sides overlapping each other and look like a conjugated sheet. Family *machans* are made inside *Korale*.

Canoes

The Onge dug-out canoe which is same as the Nicobari outrigger canoe, is a peculiar design in itself. Its main body is made from *Kwakulu* (*Tetramelis Nudiflora*) or *Tolkey* (*Cavanilium euphyllum*). It is about $\frac{1}{2}$ inch thick and 1 ft.

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to 1½ ft. open on the upper surface whereas the Nicobari canoe is much thicker and stouter and is much wider. Further, unlike the Nicobari canoe, it has a prow at both ends where the 'seacunny' can sit and from where turtles are harpooned.

The buoy is made of *Tatnemelis nudiflora* or *Sterculus communis* and is attached to the main body with the help of 2 or 3 cross pieces of hardwood poles. The mode of attachment is not so perfect as that of the Nicobari canoe.

The Paddles (Tay) are made of *Tibouchina*, *Berage*, *Jugawa*, *Kochakwaga*-all miscellaneous hardwoods. A nautilus shell (*Narukawa*) or a degohi or *Bati* is kept in the canoe for throwing out seeping water.

Wearing Apparel

Though some of the Ongemen have started using clothes given to them as presents, most of them still prefer to use the strip of cloth (*Langot-Hind*) tucked in a thread tied round the waist. Rest of the body is naked.

The women folk wear in front a tassel of fibre (*Tomonyeven*) made of young cane leaves. It is tied around the waist by thread received from Port Blair or made locally from the bark of *Hibiscus tiliaceus*. Sometimes the bark of the tree as such is used for the purpose. They do not wear any cloth, but are sometimes seen using 'lungis' and blouses received as gifts. A string of beads or locally available shells (*Chenedela*) is sometimes worn round the neck.

Baskets and Containers

Apart from the metal cans, mugs, etc., which they receive as gifts, the containers originally used by the Onges are:

(a) 'Taule' (Cane basket)—This type of basket which are of various sizes has invariably a pointed bottom. It is made entirely of cane and is quite a good specimen of workmanship. *Taule* is used for storing general provisions, keeping roots and tubers collected from the forest and left-overs of pork. The basket is hung at the back from the forehead with the help of a belt made of *Hibiscus tiliaceus* bark.

(b) 'Uku' (wooden bucket)—It is made of *Pejanella rheedii* wood. The tree is felled and

made into small billets according to the required size of the bucket. After seasoning the wood for sometime, the billets are made hollow from one end with the help of a sharp piece of iron serving as side, the other end being left untouched to serve as bottom. The thickness of the bucket on the sides is generally about 1/4 inch to 1/3 inch and at the bottom about 1 inch. A layer of bee-wax is put at the bottom to make it leak proof. The bucket is then tied in straps of split cane or tree bark. It is hung at the back in a similar manner as 'Taule' and is used only for one purpose, viz., collection and storage of honey.

(c) Bamboo Containers—Pieces of drifted giant bamboo (*Bambusa gigantea*) are found in the coast of Little Andaman (Specially on east coast). The Onges make containers for storing water, etc., out of one inparamode, keeping a node at one end intact and piercing through the other node.

(d) Drinking bowls—Apart from aluminium and enamel mugs received as gifts, the Onges use Nautilus shells (*Naoetskwo*) for this purpose and also for hauling water from the streams and boiling out water from the canoes while travelling in it.

(e) Empty bottles, tins, etc. are often salvaged from seashore and used as containers.

Weapons and Tools

(a) Bow—The Onges bow (*Aay*) is a long curved structure and is usually flat when unstrung. It is made of a tough wood having high bending and shock resisting properties. They use 'Tokolbers' wood for the purpose, which is (Probably) *Sagarca elliptica*—the same tree which was used by Great Andamanese tribes for making bows. Sometimes decorative work is done at both ends of the bow by *Dendrobium* bark. The bow strings are made of fibre obtained from aerial roots of *Ficus* species or stem of *Anodendron paniculatum* climber.

(b) Arrows—(i) *Kurange* (for shooting fish)—This type of arrows has a long pointed iron head tied to the body of the arrow with the help of thread.

(v) *Chenokwa and Tena* (for shooting pig)—These arrows have lanceolate iron head and whereas Chenokwa head is detachable, Tena is a permanent fixture.

Multiple headed arrows for shooting fish and birds are neither made nor used by the Onge. The body of the arrow is made of Bamboo, *Mimosaops Nitidula* and a few miscellaneous hardwoods. The arrow heads are made of iron salvaged from the sea or obtained from Port Blair.

(c) *Turtle harpoons and Javelins* (spears)—Javelins are made of 'Kolbo' (unidentified) and turtle harpoons of *Mimosaops Nitidula*. Both have lanceolate iron heads but the head of turtle harpoons is detachable.

(d) *Dah, adze, etc.*—Most of the Dahs and adzes used by the Onge have been obtained from Port Blair. Small double edged dahs and special types of adzes, e. g., for making wooden bucket are also used by the Onge. Some of them have obtained files from Port Blair for sharpening their tools.

Fishing Equipments

Apart from shooting fish with the arrows, the Onge also catch fish with the help of hook and line obtained from Port Blair. The women make hand-nets for catching fish with the help of thread obtained from Port Blair. These hand nets are used by women only.

Smoking Pipes

The Onge (Men, women and children) are fond of smoking. They use crab's claw as smoking pipe. Sometimes wooden pipes are also made by the Onge.

Torches

Spindles of dhup resin are wrapped in young cene leaves and coiled as torches for turtle hunting and night journeys'.

Trophies

Turtle heads are hung in the huts as trophies. The Onge have great attachment to the dogs. When a dog dies, its skull is kept as a trophy in the hut. Sometimes these skulls are painted in various patterns.

Livestock

The Onge do not rear pigs or fowl as the Nicobaris do. The only livestock possessed by them are the dogs which, it is believed, were introduced by Burmese poachers. Most of the dogs are rickety due to malnutrition, eating, as they do, the left over of their masters.

Food Habit

The Onge are essentially hunters and food gatherers. Forest is their home and hunting ground. Their staple food consists of a non-vegetarian diet supplemented by some edible fruits, roots, tubers and honey. There is a perfect division of labour along sex line for the purpose of food collection. The males hunt pigs and turtles, shoot fish with bows and arrows and collect honey and fruits. The females catch fish by hand-nets and dig out edible roots. Preparation of food is, of course done by both the sexes. The following items constitute the food of the Onge.

NON-VEGETARIAN ITEMS

(1) *Pig (Kusil)*—Pig is the staple food of the Onge. This animal seems to be *Sus-andamanensis*, the common species of Andaman pig. The forests seems to harbour quite a large population of pigs, those in the interior being fattier and richer in fat than those found near the coast. The Onge hunt them with the help of dogs. The pigs are shot by a special type of arrow (*Chenokwa* and *Tena*) having a blade at the apex and also killed by spears (*Tukhang*). The pig hunting expeditions are organised singly or in groups followed by a pack of dogs. It is generally believed that the dogs were introduced in this island by the Burmese poachers. However, the dogs have acclimatized and proved very useful to the Onge in pig hunting. After the pig is killed, the stomach is cut open and stuffed with green leaves and brought to the camp. The hooves of the animal are cut off. The corpse is lightly roasted over flames to remove the hair, and then cut to pieces. The meat is prepared for eating in two ways:

(a) *By roasting*—The meat is packed carefully in green leaves of *Artocarpus* or any other broad leaves and is placed on a layer of stones. More leaves are heaped up and the whole mass is covered with dry twigs, leaves and other

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combustible matter. The hunter then sets fire to the whole thing and a little later cover everything with earth or sand. The meat is thus roasted by gentle fire for a few hours when the meat is unsoared and eaten as such. No salt or condiments are added.

(b) *By boiling*—The meat is put in daghchies and other tin vessels (obtained from Port Blair) and sufficient quantity of water is added. The contents are then boiled over open fire and eaten when ready. This process enables the Onges to separate out fat from the meat, which they store up in bottles (salvaged from seashores) for future use and when no other item of food is readily available.

The roasted meat is often dried and saved for future use in periods of scarcity. It develops a stinking smell but the Onges do not seem to mind.

(2) Turtle (Narelange)

Turtles are harpooned mostly at night with the help of torchlights. They go out to the sea in batches of two in their dinghies which have a special prow for the purpose. They often jump into the water, catch hold of the hind part of the turtle and bring it on board. Not all know the art of turtle harpooning and that is probably why the turtle heads are preserved as trophies. Two varieties of turtles are found in the sea one with thick scales which can be removed from the shell and the other a bigger variety having thin scales which firmly adhere to the shell. The turtle meat is cooked before eating and is supposed to be very delicious.

The eggs of the turtles are also dug out from the seashore and eaten after boiling.

(3) Fish (Choga)

A large variety of fish are found in the sea. The smaller ones are caught with hand-nets and the bigger ones are shot by bows. Often, the catch is buried in sand on the coast and the hunter goes in pursuit of other game, only to recover it later. Usually they carry it in the cane baskets. The head of the fish is generally not eaten. Fish is cooked before eating.

The types of fish commonly found in the sea near the Island are *Surmai*, *Tamil*, *Farsa*, *Katla*,

Koral, *Poti*, *Bhetki*, *Kokari*, *Chanda*, *Mirga*, *Mava*, *Khauni*, *Dandus*, *Bangvi*. These fish are eaten by the Onges whereas the ray fish, Shark, Jelly fish, which are also found plentifully in the sea are not eaten.

(4) Bivalves

The bivalve oysters found in mangrove trees are collected by the Onges and the soft meat is eaten with relish after boiling. The bivalve shells are always found near the huts of the Onges. The mound of bivalve shells in a place is indicative of earlier residence of the Onges in that place.

(5) Crabs

The dark brown variety of crab is eaten with relish. The meat is removed from the shell which is thrown away.

(6) Prawns

Fresh water prawns are available in some streams. They are eaten after boiling.

The Onges do not shoot birds, which are found plentifully in Little Andaman. They do not kill and eat dogs even in times of scarcity.

VEGETARIAN ITEMS

(1) Honey (Ieh)

There are two types of bees (*Apis spp.*) found in Little Andaman—one small and another big. The smaller bees make the bee-hives in the hollows of trees whereas the bigger ones make them generally on branches of trees. The hive of the former is much smaller than the latter. The quality of honey is also different—that of the smaller bees is believed to be more nutritious than that of the larger bees.

The Onges are skilled in spotting out the bee-hives. The trees having small bee-hives in the hollows of a clean bole at a considerable height are generally felled for honey collection whereas the negotiable bee-hives are approached by climbing the trees. Before approaching the bee-hive, the Onges use an indigenous bees repellent are collected from a small tree called *Toriogey* (species could not be identified). They chew the green leaves of this small tree and smear the juice of these leaves all over the body and then ascend the tree with a wooden

bucket, a knife and a mouthful of Tonigey leaves. On approaching the bee-hive they blow out the saliva mixed with the juice of the leaves towards the bee-hive in order to spray the bees and fly them away. Then they cut the bee-hive and later extract honey from it by direct pressure.

(2) Fruits and Seeds

The fruits and seeds of the following trees are eaten by the Onge.

Bulundangey—The species was identified to be *Artocarpus Chaplasha*. Probably the fruits of other *Artocarpus* species are also eaten. The ripe fruits are eaten as such. The semi-ripe and unripe ones are roasted on hot stones. The soft portion which tastes sweet and sour is eaten and the seeds are stored for use during rainy season from March to May.

Gine—The fruits of *Baccaurea sapida* which taste sour are eaten as such. These fruits are available during April to June.

Dangecho—The species is *Pometia pinnata*. The fruit is dark purple and on cracking the rind the flesh is exposed, which tastes like litchi. The seed is also stored for future use during rainy season.

Tejri—The ripe fruits of *Minusop Rrovalli* are eaten by cooking in December and January.

Mangrove—The fruits of *Tajandava* (*Ceriops candelaris*) and *Daboojee* (*Bruguiera gymnorhiza*) are collected from seashore where they get deposited by the waves. They are boiled and eaten by the Onge.

Pandanus—The fruits of *Bali* (*Pandanus* spp.) is sometimes boiled and eaten with honey but it is not very common. The Onge do not make *Pandanus* cheese which is characteristic of the Nicobarese. *Coconut*—Coconut plantation is a recent phenomenon in the island and the Onge show interest in it by degrees. Coconut does not constitute an important item of food of the Onge.

(3) Stem of plants

In one of our camps the Onges were seen roasting pieces of what apparently looked like wood and eating the same. After a great deal of enquiry and persuasion, the source was shown by them. The plant turned out to be a palm, the species being *Caryota mitis* (called *Teste-kala* by the Onges). The Onge cut down the palm and billet it. Later they remove the outer bark, and retain the pith which they further cut into smaller lengths. These pieces are roasted on fire. When cooked, the blackened outer layer is removed and rest of it is eaten. The fibres are discarded. It tastes like sago and its main content is starch.

(4) Roots and Tubers

Two types of roots of climbers viz., *Gegee* and *Chenadalu* usually referred to as *Jungli alu* are dug up by women with the help of adzes and sticks. *Gegee* roots are thicker while those of *Chenadalu* are thinner. They are available in lengths varying from six inches to a foot or more. The stem bears small prickles. They probably belong to *Dioscorea* spp. (which is a guess work). The roots are boiled and eaten with honey.

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